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THESIS

FEASIBILITY OF MONETARY INCENTIVES WITHIN THE UNITED STATES ARMY RECRUITING COMMAND

by

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and
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December, 1994

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ABSTRACT

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Experiments indicate that simulated monetary bonuses motivate actual recruiters to increase their estimated recruit production. The authors believe that the Bonus Incentive Recruiting Model (BIRM) mechanism provides the best opportunity for efficient resource allocation within USAREC. Therefore, the authors strongly recommend USAREC to experiment with the BIRM mechanism as it is designed to allow various incentive tools to be incorporated within its framework.

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I. INTRODUCTION

A. GENERAL

The United States Army Recruiting Command (USAREC) has come under the scrutiny of the United States Congress due to the size of USARECs operating budget and the decreasing productivity of its recruiting forces. Senator David Pryor, D-Ark., requested the General Accounting Office (GAO) to survey military recruiting operations and identify areas in which the Department of Defense (DoD) could reduce its recruiting costs without adversely affecting its ability to meet military personnel requirements. The GAO provided several recommendations to the military services which could make the services' recruiting programs more cost effective. The GAO further recommended the services initiate these recommendations prior to requesting more funds for additional recruiters or advertising. One specific recommendation is to revise the quota based recruiting system which currently deters recruiters from maximizing their numbers of enlistments. [Ref.1,p.2,68]

Lyons and Reister [Ref.3] identified potential sources of high unit cost and incentive problems in the current quota based recruiting system. This thesis is a follow-on to Lyons and Reister's thesis. It will focus on the GAO recommendation concerning the incentive problems of the current quota based system. It will identify some potential issues of providing monetary incentives to recruiters based on their individual performance.

B. OBJECTIVES OF THE RESEARCH

The objective of this research is to examine an alternative incentive mechanism to the current quota based recruiting system. The research will help determine the potential issues of a monetary based incentive program within USAREC as a means to increase individual recruiter productivity. Such an increase would allow USAREC to allocate resources more efficiently.

C. RESEARCH QUESTIONS

The primary research question is: To what extent will the introduction of monetary incentives in the recruiting process increase productivity and reduce incentive problems and inefficiencies?

The secondary questions are:

1. Are recruiters currently producing below their true potential?
2. What are the major concerns within USAREC of providing monetary incentives to recruiters?
3. Will a monetary incentive motivate recruiters to increase their productivity?
4. What are the possible ramifications of implementing a monetary based incentive program?

D. SCOPE AND LIMITATIONS

The scope of the thesis is to examine the current USAREC incentive program at the recruiter level. The actual implementation and management of a monetary bonus system within USAREC will not be addressed. The experiments

conducted with recruiters were limited to the Northern California area due to the nature of the experiment and geographic constraints. A new recruiting strategy titled "Success 2000" was implemented on 27 September 1994 (during the writing of this thesis), therefore the research effort concentrates on the quota based system prior to the modifications. Success 2000, however, seems to make only minor modifications to the quota based recruiting system. Therefore, there were minimal implications on the conclusions of the research effort.

E. METHODOLOGY

The research began with further experimentation with the Bonus Incentive Recruiting Model (BIRM) introduced at the Naval Postgraduate School.¹ Information necessary for the experimentation was obtained during meetings and interviews with local Army recruiters, battalion staff personnel, and several staff directorates at USAREC headquarters. Experiments were developed and conducted with students at the Naval Postgraduate School. Coordination was made with a recruiting battalion in Northern California to conduct experiments with actual recruiters.

F. ORGANIZATION OF THE THESIS

The thesis is organized into five chapters. Chapter I is

¹ The Bonus Incentive Recruiting Model (BIRM) was developed in 1993 by Professor K.L. Terasawa as an alternative to the quota-based recruiting practice. For detail, see Lyons and Riester [Ref.3].

an introduction to the thesis. Chapter II provides an overview of the quota based recruiting system, and a review of critical problems with the overall recruiting process. Chapter III identifies some potential issues concerning the reinvention of recruiting incentives. Chapter IV provides a discussion of experiments conducted and analyses of the results. Chapter V provides conclusions and recommendations for further research.

II. QUOTA BASED RECRUITING SYSTEM

A. INTRODUCTION

This chapter provides an overview of the current quota based recruiting system and identifies critical problems associated with this system. The current system is best described as a centralized system in which quotas are passed from the Department of the Army level, down to the USAREC level, and finally down to individual recruiters located in various recruiting stations. This centralized system does not take full advantage of local recruiters' potentially more accurate recruit-market information. In fact, under the quota based system, such information from the local recruiters tends to hide the true nature of market potential, and even the historical data generated under the system become challenging for proper interpretation. This review of the quota system is limited to analyzing the recruiter's environment encompassed within the overall quota based system. Not every element of the accession process will be examined.

B. REVIEW OF CURRENT QUOTA BASED SYSTEM

The mission of USAREC is to recruit with integrity, high quality men and women to meet accession and special skill requirements of the Regular Army and Army Reserve [Ref.2,p.3]. In order to meet Army manpower requirements, USAREC utilizes a quota based recruiting system.

1. Background

There are approximately 4,000 recruiters within USAREC located in over 1,400 recruiting stations throughout the United States [Ref.2,p.10]. The quota allocation system is synopsized as follows: the Department of the Army's Deputy Chief of Staff for Personnel (DCSPER) generates the required annual accessions and forwards them to USAREC. To account for delayed entry program (DEP) losses, USAREC increases this number by 15 percent. The DEP enables the Army to contract potential recruits and have them report for training when training seats become available. The recruit may remain in the DEP for up to one year [Ref.3,p.49].

A quota matrix is then created by USAREC which assigns the quota mission for the four brigades. The brigades establish the quota mission for the battalions and recommend a mission for the companies. The individual recruiter receives his mission quota from the recruiting station commander. The quota is based on several variables including demographics, propensity to enlist, economic conditions, and previous production. [Ref.3,p.50]

Under the quota based recruiting system, the recruiter's performance rating is primarily a function of his productivity as compared to his quota. A recruiter's ability to meet his assigned quota directly affects his Non-Commissioned Officer Evaluation Report (NCOER). If he meets his quota, he is considered successful. If the recruiter continually fails to meet his quota, he may receive a substandard evaluation report and possible relief from his recruiting position.

2. Current Incentive Structure

One incentive USAREC currently uses to motivate recruiters is the Recruiting Incentive Awards Program,

outlined in USAREC Regulation 672-10. This program is designed to recognize excellence in recruiting. Award qualification is based on the accumulation of points from recruit contracts during a specific time period. Additional points are awarded for accomplishing assigned monthly quotas and for overproducing. Table 1 lists the production point values awarded for various categories of recruits.

	CATEGORY	POINTS
1	Graduates, Seniors, TSC I-III A	20
2	Graduates, Seniors, TSC III B	5
3	Prior Service (RA), TSC I-III A, and III B	5
4	Prior Service (USAR)	10
5	Non High School Graduates, TSC I-III A	5
6	Graduate/Senior TSC IV, Non-grad TSC III B/IV	0

Table 1. Production Point Values After Ref. [4,p.3].

The Basic Recruiter Badge is awarded upon successful graduation from the Basic Recruiter Course. Table 2 lists the various achievement stars and the Gold Recruiter Badge awarded by USAREC. Recruiting awards must be earned in the sequence shown.

Award	Points	Maximum Period
1st Gold Achievement Star	240	6 months
2d Gold Achievement Star	300	6 months
3d Gold Achievement Star	300	6 months
Gold Recruiter Badge	300	6 months
1st Sapphire Achievement Star	300	6 months
2d Sapphire Achievement Star	300	6 months
3d Sapphire Achievement Star	300	6 months

Table 2. Various Achievement Awards From Ref. [4,p.2].

After a recruiter has earned his Third Sapphire Achievement Star, he is eligible to compete for the Recruiter Ring. To qualify for the Recruiter Ring, a total of 1200 points must be earned within 24 months. The Recruiter Ring is the ultimate award under the Recruiting Incentive Awards Program [Ref.4,p.3]. Additional awards include the Commanding General's Club and the Chief of Staff of the Army (CSA) Recruiter of Excellence Award. Both awards are designed to stimulate overproduction [Ref.5,p.1].

In addition to the Recruiting Incentive Awards Program, there are other significant factors which motivate recruiters to achieve their assigned quota. As noted earlier, a recruiter's NCOER is strongly tied to achieving his assigned quota; if he consistently achieves his quota, he will be considered a success. Interviews with numerous recruiters indicated Non-Commissioned Officer (NCO) professionalism as an additional motivator.

3. Success 2000

As mentioned in the Scope and Limitations section of the previous chapter, USAREC recently implemented a recruiting strategy titled "Success 2000." This strategy involves developing and introducing state-of-the-art sales management and processing equipment, and introduces the following principles:

1. To simplify the mission and enhance teamwork at station level for a more efficient, more productive recruiting force.
2. To expand the authority, autonomy, and flexibility afforded the recruiting station commander.
3. To change the methodology for measuring success to focus leaders on those essential elements necessary to achieve success at all levels, thus decreasing the disparity between a successful USAREC and an unsuccessful recruiting force. [Ref.6,p.12]

The first principle of simplifying the mission involves reducing the number of recruit categories from 20 to three for the Regular Army (RA) and three for the United States Army Reserve (USAR). Additionally, quotas are no longer assigned to individual recruiters. Recruiters will work together to accomplish a station quota.

Success 2000 views the recruiting station commander (RSC) as the most critical member of the leadership team. Therefore, the second principle is designed to empower the RSC by giving him more authority and flexibility in the execution of his duties.

The third principle of Success 2000 changes the way USAREC measures success. Prior to Success 2000, success was measured at all levels of command solely on the basis of

mission box² achievement. However, under Success 2000, units are evaluated and compared based on the percent of successful subordinate recruiters and stations.

The Recruiting Incentive Awards Program will remain after Success 2000 is implemented. Recruiters will still earn badges, stars, and rings, but the point system to achieve these awards will be modified. Recruiters will still be credited points for individual contract accomplishments and for the station's achievement of its mission.

C. CRITICAL PROBLEMS OF THE CURRENT QUOTA BASED SYSTEM

The method of operation and management techniques that USAREC rely upon are in conflict with many of today's generally accepted management theories. Such conflict may be divided into two areas: human resource strategy and economic incentives.

1. Human Resource Strategy

Today's management theories revolve around a core concept: "people make it happen." The quota based system USAREC uses is not designed around this concept. Although the recruiters ultimately do "make it happen," they do so with their careers at risk and in a negative environment.

a. Risk-Averse Working Environment

As noted earlier, under the quota based recruiting system, the recruiter's performance rating is based upon how

² Quota which is assigned to individual recruiters and various levels of command within USAREC.

well he satisfies the quota. If a recruiter achieves his quota, he is considered successful. If a recruiter continually fails to meet his quota, he may receive a substandard evaluation report and possible relief from his recruiting position. The performance rating has little to do with how well he achieves the full market potential. If a recruiter is assigned an easy quota, he becomes "successful" with little effort. On the other hand, if he is assigned a more difficult quota, he may never achieve a "success."

Interviews with several recruiters revealed that the negative effects of the quota based recruiting system dominate their working environment. From the recruiter's perspective, leaders in the various levels of command are often more concerned with achieving production quotas than with the well-being of recruiters. This situation seems to create an overly risk-averse working environment for recruiters.

In Frederick Herzberg's Dual-Factor Theory, he suggests jobs have dissatisfiers (hygiene elements) and satisfiers (motivators). His theory lists hygiene elements as status, interpersonal relations, quality of supervision, company policy and administration, working conditions, job security, and salary. Motivators include challenging work, achievement, growth in the job, responsibility, advancement, and recognition. Hygiene elements are core requirements for virtually any job, while motivators are those elements designed to enhance job performance. [Ref.7,p.434]

The quota based recruiting system that USAREC uses does not satisfy the conditions specified in Herzberg's Dual-Factor Theory. Although the system does contain the motivator elements, it fails to incorporate two critical hygiene elements: working conditions and job security. The recruiter's fear of failing to achieve his quota, and the effects associated with failing have created undesirable working conditions in a negative working environment.

Additionally, from the recruiter's perspective, job security is always in doubt. In fact, USAREC projects 700 total recruiter reliefs in fiscal year 1994 [Ref.6,p.5].

b. Disincentives To Overproduce

The quota based recruiting system is primarily designed to achieve a predetermined, accession requirement. However, previous research has revealed that there is an underlying disincentive for recruiters to overproduce, and an incentive to "back-pocket" recruits [Ref.3,p.52]. Recruiters will withhold a potential recruit once the quota is satisfied, and will keep him for future quota satisfaction.

Lyons and Reister [Ref.3], noted recruiters do what is expected, but lack the incentive to exceed established production quotas. Additionally, they discovered that since the penalty for failing to achieve a quota was so great, recruiters have a strong incentive to induce the system to lower their quotas. Their research summarized that under the quota based recruiting system, a recruiter would not maximize his market potential, but would only attempt to achieve his quota. Since historical performance is often used to determine future quotas, recruiters are encouraged to pace their recruiting effort so as to avoid higher future quotas, and the potential failure to achieve these higher quotas. Recruiters in the field and USAREC staff confirmed the practice of back-pocketing within the quota based recruiting system. [Ref.3,pp.50-52]

Additionally, Dertouzos [Ref.8] stated:

...analysis assumes that recruiters will always have incentives to maintain constant levels of effort and fully utilize available resources. However, although recruiter success and subsequent promotion depends on production relative to quota allocations, the rewards for overproduction may

not, for a variety of reasons, be sufficient to induce maximum effort at all times.... Indeed, preliminary evidence suggests that there may even exist disincentives to produce. [Ref.8,p.15]

The GAO report prepared for Senator Pryor revealed recruiters are not as productive as they could be because of the quota system, and the system often discourages recruiters from exceeding their quotas. The GAO report stated:

Overproduction is not rewarded. In fact, in the current system, a recruiter's overproduction during one year could result in a rise in the recruiter's quota for the next year. The higher quota in subsequent years would require more work from the recruiter and increase the possibility of the recruiter's missing a quota and receiving a career-damaging performance evaluation. These effects of the quota system and past performance suggest that recruiters could produce more recruits than are currently. [Ref.1,pp.6,67]

Frederick W. Taylor, the father of Scientific Management, stipulated that one of management's basic responsibilities is to establish legitimate incentives for work accomplished [Ref.7,p.3]. USAREC has developed incentives such as recruiting badges, stars, and rings to reward recruiters for work accomplished. However, the quota based recruiting system creates disincentives to overproduce and an incentive to back-pocket recruits.

c. Limited Process Ownership

Since the quota based recruiting system is top-fed, recruiters often do not have a sense of autonomy and process ownership within the recruiting environment. Interviews with several recruiters revealed that they desire more personal responsibility in the execution of their duties. Recruiters often feel they are pawns in the overall accession process.

Hackman and Oldham theorized that there are certain relationships among core job dimensions, critical psychological states, and on-the-job outcomes. They noted that essential core job dimensions exist which create critical psychological states which ultimately result in desirable personal and work outcomes. The core job dimensions must include autonomy, feedback, and at least one of skill variety, task identity, or task significance. These relationships are illustrated in the Figure 1. [Ref.9,p.631]

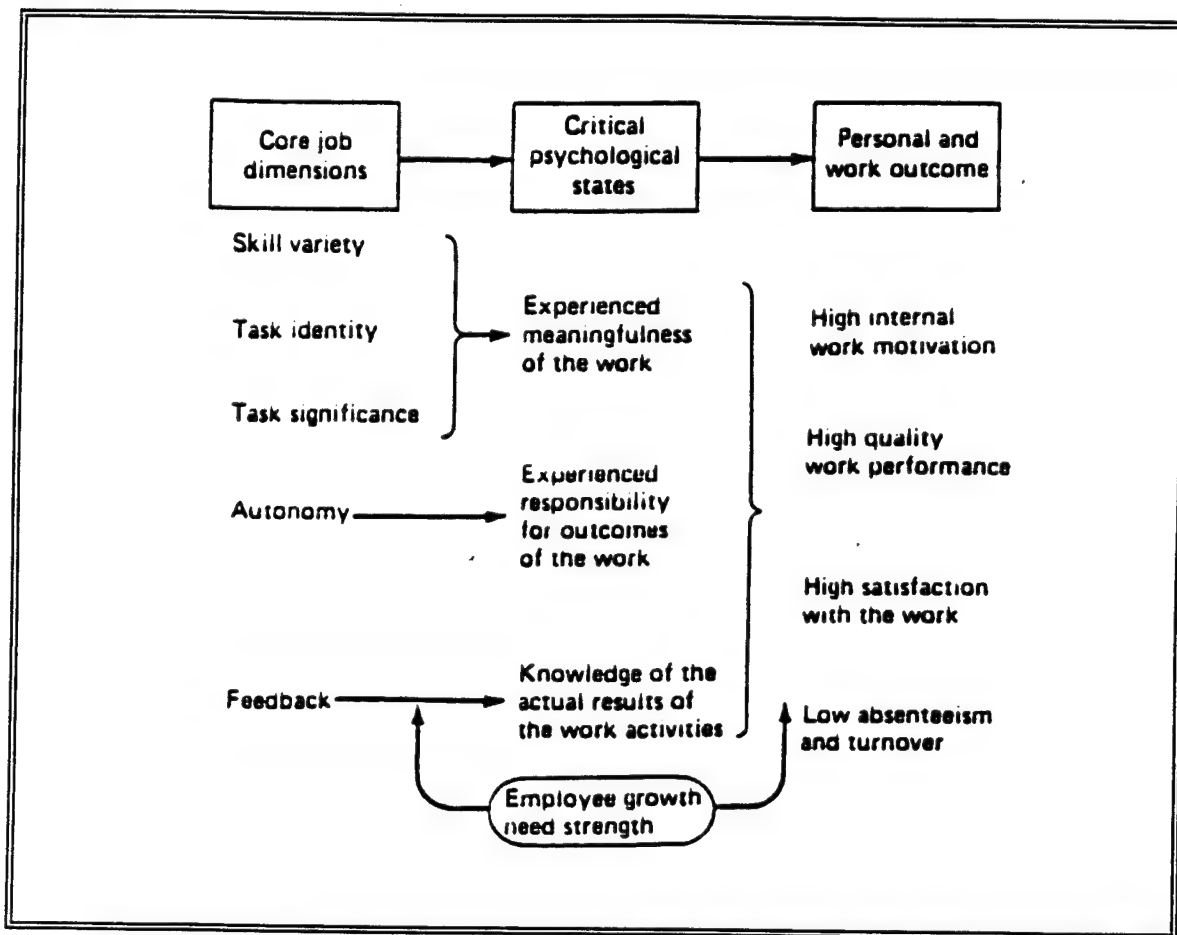


Figure 1. Relationships Among Core Job Dimensions, Critical Psychological States, and On-The-Job Outcomes From Ref. [9,p.631].

The research with recruiters revealed that the quota based recruiting system does provide skill variety, task identity, task significance, and feedback. However, the presence of the critical core job dimension of autonomy is questionable. Hackman and Oldham defined autonomy as:

...the degree to which the job gives the worker freedom, independence, and discretion in scheduling work and determining how he will carry it out. People in highly autonomous jobs know that they are personally responsible for successes and failures. To the extent that their autonomy is high, then, how the work goes will be felt to depend more on the individual's own efforts and initiatives - rather than on detailed instructions from the boss or from a manual of job procedures. [Ref.9,p.632]

The lack of autonomy in the quota based recruiting system does not develop the critical psychological state of "experienced responsibility" for outcomes of the work. This in turn causes the personal and work outcomes illustrated in Figure 1 to be unattainable.

d. Management By Fear

It appears that fear is a primary tool used by management within the quota based recruiting system. Recruiters are continuously reminded of the consequences of failing to achieve assigned quotas. W. Edwards Deming, a renowned expert in quality management, developed 14 obligations of management in order to provide a quality product. His eighth point recommends to drive fear out of the organization, create trust and a climate for innovation [Ref.10,p.15].

The quota based recruiting system relies on fear and does not create trust between recruiters and upper levels of

management. Recruiters are often disillusioned because the majority of them fail to meet assigned monthly quotas, yet USAREC consistently meets its overall accession requirements each year. In fact, more than 80 percent of the battalions failed to achieve assigned quotas in fiscal year 1993, although USAREC enjoyed its third most successful recruiting year in history [Ref.6,p.13]. Although it is necessary for USAREC to increase its annual accession objective to account for DEP losses, this paradox destroys trust between the recruiters and upper level management.

2. Economic Incentives

In today's global marketplace, successful sales organizations allocate resources based upon up-to-date accurate information (demand) received from the decentralized marketplace. The quota based recruiting system prevents USAREC from utilizing the recruiters who could have the more accurate local market information. As mentioned earlier, the quota based recruiting system creates disincentives to overproduce and incentives to back-pocket recruits. The system prevents USAREC from determining what individual recruiters are truly capable of producing. When market conditions and required end-strength level change, then the formally optimal quota level no longer remains as such. In the absence of more accurate information, USARECs task to allocate scarce resources efficiently and adjust the quotas using a centralized decision making process has become exceedingly difficult in a constantly changing environment.

a. Resource Allocation - Location

The most important resource USAREC manages is on-production recruiters. Roughly speaking, the efficient

resource allocation occurs when the marginal production of each recruiter becomes equal among all recruiting stations. This is true especially when the marginal costs of deploying a recruiter is equal across the stations. Given that the different regions are often characterized by different market potential, the policy of maintaining national coverage is not likely to result in efficient use of USAREC resources. The GAO reported:

DoD maintains an extensive network of recruiting offices around the United States to obtain geographic representation for the services. However, 50 percent of these offices provide less than 10 percent of the recruits. [Ref.1,p.5]

b. Resource Allocation - Quantity

Determining the size of the total recruiting force is one of the critical decisions that USAREC must make in achieving the Army's accession requirements. Since USAREC is unable to determine what each recruiter is truly capable of producing, it is prevented from accurately calculating the total number of recruiters required.

Officials at USAREC predict it will become more difficult to attract, contract, and retain quality personnel in the future [Ref.11,p.17]. In line with this prediction, Congress authorized more recruiters for the Army. This decision, however, may not be cost-effective and will not address the fundamental incentive problems with the quota based recruiting system.

3. Success 2000

Success 2000 was implemented 27 September 1994, and it is too early to draw any conclusions at this time. The authors believe that Success 2000 is a step in the right direction in

that it simplifies the quota system and tries to empower the recruiters. The problem, however, is that Success 2000 remains a quota system where the quota allocation is given by USAREC down to the recruiting station commander. This will not alter the potential gaming incentives mentioned earlier for any quota based recruiting system.

D. CHAPTER SUMMARY

This chapter provided an overview of the quota based recruiting system and its critical incentive problems. The current recruiting system attempts to stimulate production through various incentives within the quota based recruiting system. However, the effort does not seem to be working as evidenced by the need to increase the number of recruiters despite the fact that the target production number has been reduced. The problems of the quota system are still evidenced by the continuing disincentive to overproduce, the use of management by fear, and the incentive to back-pocket recruits. If the overall recruiting process continues to be a quota based system, the negative effects created by this system may overshadow other positive incentive measures.

III. REINVENTING RECRUITING INCENTIVES

A. INTRODUCTION

This chapter focuses on an alternative to the quota based recruiting system. As mentioned in the previous chapter, the negative effects created by the quota based recruiting system may overshadow other positive incentive measures. As a result, many recruiters do not produce to their true potential, and this may prevent USAREC from making better resource allocation decisions. Since the quota based recruiting system has several critical problems, the authors believe that significant changes should be made to this system to enable better resource allocation decisions.

In Vice President Al Gore's *National Performance Review*, he challenged the leaders within the federal government to identify problems, and offer solutions and ideas for savings. This involved the creation of reinvention laboratories where experiments in new ways of doing business could be examined. He stated, "Government must find better, more efficient and more effective ways to pay for its activities." This occurs through cutting red tape, measuring results, empowering customers, and creating competition incentives to create an environment that rewards success. He also stated that, "We must discover what the private sector has already embraced: that more isn't always better, but better is better." [Ref.12,pp.1,13,19]

Two key points from the aforementioned quotes are that success must be rewarded and "more" is not always better. This thesis incorporates these points by examining the possibility of eliminating the quota based recruiting system and replacing it with a system designed to increase recruiter

productivity and provide accurate market information. The research effort focuses on the use of simulated monetary bonuses as the incentive tool.

B. RESISTANCE TO CHANGE

The concept of eliminating the quota based recruiting system and replacing it with a system that incorporates monetary bonuses may be met with resistance. There are many examples where people have resisted change, but once the changes were implemented, they proved to be worthwhile.

1. Human Nature to Resist Change

It is a natural tendency for people to resist change. Rosabeth Moss Kanter, an acknowledged expert in the study of change, stated:

But as common as change is, the people who work in an organization may still not like it. Each of those "routine" changes can be accompanied by tension, stress, squabbling, sabotage, turnover, subtle undermining, behind-the-scenes foot-dragging, work slowdowns, needless political battles, and a drain on money and time - in short, symptoms of that ever-present bugaboo resistance to change. [Ref.9,p.675]

2. Example - The All-Volunteer Force

An example of a successful change is the all-volunteer force. The Vietnam War and anti-draft sentiment led to the advent of the all-volunteer force. The following quote provides insight into those turbulent times:

By the late 1960s, changing demography had

fundamentally altered the conditions under which the old draft had operated. No longer, as in the 1950s, would virtually every young man serve in the military; rather, even during a war, barely half of them would. The Selective Service System, once a source of national pride and even affection, had become a mistrusted institution, composed, in the popular mind, of fossilized and callous old men. An institution once thought of as representing the best in American politics now had the reputation of representing the worst. [Ref.13,p.166]

Popular discontent with the Vietnam War and an improving demographic picture led some leaders to believe that conscription would no longer be necessary. On 27 March 1969, President Nixon appointed a commission chaired by Thomas S. Gates, a former Secretary of Defense, to study the prospects for an all-volunteer force. The Gates Commission recommended discontinuing the draft and establishing an all-volunteer force. This new system was implemented 1 July 1973. [Ref.13,p.166]

The concept of the all-volunteer force was an extremely controversial issue. People resisted the change from conscription to an all-volunteer force for many reasons. The quote below categorizes some of the major concerns:

Criticisms of the All-Volunteer Force fall into four categories, defined by their concerns with representativeness, numerical strength, quality, and overall efficiency. [Ref.13,p.170]

Federal legislators held hearings and debated the issue of the all-volunteer force. Opponents of voluntary recruitment believed that an all-volunteer force conflicted with the democratic ideal of civic duty or that it was inequitable and inefficient [Ref.14,p.vii]. Senator Edward Kennedy, D-Mass., as a witness before the Senate Armed Services Committee on 4 February 1971, stated that he considered a volunteer Army unwise and inequitable during

wartime [Ref.15,p.428].

Today, most Americans view conscription as a thing of the past and only necessary during a national defense emergency. In fact, young Americans may find it hard to imagine anything other than an all-volunteer force. The all-volunteer force is a viable alternative to conscription in meeting military personnel requirements, as proven by successful combat operations within the last decade. Additionally, a 1993 USAREC publication which chronicled the first 20 years of the all-volunteer force stated:

Last spring a Gallup poll showed that the public has more confidence in its military than any other institution. Now the American people say nobody does it better, but 20 years ago, when a volunteer Army was just a campaign promise, the nation was not so sure about the future of its armed forces. [Ref.16,p.1]

C. MAJOR CONCERNS OF MONETARY BONUSES

When recruiters were introduced to the idea of a system which incorporates monetary bonuses, they indicated several concerns. The most common concerns regarding such a system are addressed in this section.

1. Common Arguments and Concerns

One of the most common arguments is that laws prohibit paying recruiters bonuses which are based on individual performance. Another argument is that the general public would perceive recruiters as "bounty-hunters," only being concerned with money. A primary concern is that monetary bonuses would tarnish the professional image of the recruiter and the overall image of the United States Army. Additionally, a concern often mentioned by recruiters is that

recruiter improprieties would significantly increase. Market inequities is also often mentioned by recruiters as a major concern. Finally, paying monetary bonuses to recruiters may create animosity between mainstream-Army soldiers and recruiters.

2. Discussion of Common Arguments and Concerns

There are laws that currently prohibit the payment of performance-based monetary bonuses to military personnel. However, if a more efficient method of operation is discovered, then these laws should be changed. Vice President Al Gore, in his *National Performance Review*, challenged leaders to discover more efficient and better ways of doing business. If the payment of monetary bonuses to recruiters proves to be more efficient, then Vice President Gore's challenge provides an avenue to possibly change these laws.

Regarding the argument that recruiters will be perceived as "bounty-hunters," there are two key points that should not be ignored. First, the key word in "all-volunteer force" is "volunteer." The decision to enlist rests solely with the potential recruit. Secondly, the Army maintains stringent quality standards. The recruiter is not permitted to contract an unqualified applicant. If the recruiter is limited to contracting only qualified volunteers, then the perception of recruiters as "bounty-hunters" should not exist.

The concern that monetary bonuses would tarnish the professional image of the recruiter and the overall image of the Army is a strong and valid concern. However, if the payment of these bonuses proves to be a more efficient method than the quota based recruiting system, the general public may come to accept this system. In fact, this system which incorporates monetary bonuses may give the Army an improved image of efficiency by investing money now to reduce costs and

save taxpayer dollars in the future.

A significant increase in recruiter improprieties as a result of monetary bonuses is often a common concern mentioned. Currently, under the quota based recruiting system, recruiter improprieties do occur. From fiscal years 1987 to 1993, there were an average of 226 recruiter improprieties per year [Ref.17,p.2]. With a system which incorporates monetary bonuses, recruiting improprieties will still exist, but attributing them strictly to monetary bonuses is debatable. In fact, the concern over a significant increase in improprieties due to monetary bonuses is also debatable. A logical argument that arises is the question of when will a recruiter most likely violate his ethics - to save his career under the quota system, or to increase his bonus payment under a monetary based system? Additionally, will a recruiter commit an impropriety and risk foregoing all potential future bonuses?

The recruiters' major concern of market inequities is legitimate, as it is recognized that not all recruiting regions in the country have equal production potential for recruits. In addition to potentially increasing individual recruiter production, a system incorporating monetary bonuses also has the capability to reveal the true market potential for each recruiting area. Once the actual market potentials are known, USAREC would be able to allocate recruiters more efficiently. The issue of monetary bonuses creating animosity between mainstream-Army soldiers and recruiters is another major concern. Animosity may exist, but non-recruiters have the option to become a recruiter if they so desire. Soldiers do not begin their military careers as recruiters, they go through a selection process. This process is designed to accept qualified volunteers and soldiers that are hand-picked by their respective branches for recruiting duty.

D. CHAPTER SUMMARY

The authors believe that in order for USAREC to become more efficient, significant changes should be made to the quota based recruiting system. The research effort focuses on the use of simulated monetary bonuses as an incentive tool to potentially increase recruiter productivity and provide accurate market information. The chapter noted that such a change may be met with resistance. Additionally, several key concerns were identified and addressed.

IV. MONETARY INCENTIVE ANALYSIS

A. INTRODUCTION

This chapter provides results of (simulated) monetary form of BIRM experiments conducted with a group of students at the Naval Postgraduate School and with a group of actual recruiters from a Northern California recruiting battalion. Additionally, a simple flat monetary payment scheme is examined. Since neither experiment uses any actual money, the results of the experiment should be viewed as an indicative rather than a definitive conclusion.

B. MONETARY INCENTIVE MECHANISMS EXAMINED

There are numerous monetary incentive mechanisms that the experiments could have been based upon, but this research incorporated two mechanisms that are more easily tied to individual recruiter production. Additionally, these mechanisms incorporate the production point values assigned per category of recruit (based on quality) as outlined in USAREC Regulation 672-10. The two monetary incentive mechanisms are a flat-rate method and the Bonus Incentive Recruiting Model (BIRM), which was outlined in previous research [Ref.3,p.46].

1. Flat-Rate Method

This mechanism provides the individual recruiter with a specific dollar amount per point accumulated. A flat-rate bonus per point would be easily understood by recruiters and

would be relatively easy to incorporate and manage. However, this mechanism does not account for market inequities. For example, two recruiters with the same work effort, located in different regions of the country, may be rewarded differently simply because of the regional differences in propensity to enlist.

2. Bonus Incentive Recruiting Model (BIRM)

This model is based on a mechanism developed earlier at the Naval Postgraduate School. In their thesis, Lyons and Reister noted that the BIRM would maximize market potential, reward recruiters equitably in the long run, and provide important market information to USAREC for better resource allocation decisions [Ref.3,p.46]. This thesis examines this model by experimenting in simulated and actual recruiter environments.

Under the current top-fed quota based recruiting system, the people that know the market potential best, namely the recruiters, play a limited role in the quota allocation process. The BIRM is designed to reverse that flow by requiring recruiters to forecast their production as accurately as possible. The recruiter's forecast and actual production determine his monetary bonus as shown in Table 3.

POINTS FORECASTED BY RECRUITER

	10	20	30	40	50	60	70	80	90	100
10	\$241	\$240	\$236	\$229	\$218	\$202	\$181	\$154	\$118	\$74
20	\$283	\$284	\$283	\$279	\$271	\$259	\$241	\$218	\$188	\$149
30	\$325	\$329	\$330	\$329	\$324	\$315	\$302	\$283	\$257	\$223
40	\$367	\$373	\$377	\$378	\$377	\$372	\$362	\$347	\$326	\$297
50	\$409	\$418	\$424	\$428	\$430	\$428	\$422	\$412	\$395	\$372
60	\$452	\$462	\$471	\$478	\$483	\$484	\$482	\$476	\$464	\$446
70	\$494	\$506	\$518	\$528	\$536	\$541	\$543	\$541	\$534	\$521
80	\$536	\$551	\$565	\$578	\$589	\$597	\$603	\$605	\$603	\$595
90	\$578	\$595	\$612	\$628	\$642	\$654	\$663	\$670	\$672	\$669
100	\$620	\$640	\$659	\$677	\$695	\$710	\$724	\$734	\$741	\$744

Table 3. An Example of a BIRM Incentive Payoff Table.

The bonus a recruiter receives is dependent on both the actual points produced and the points forecasted. The monetary bonus is maximized when the recruiter's forecast matches his actual production for each level of production. For example, if a recruiter forecasted 50 points and actually produced 50 points, his bonus would be \$430.00. However, if a recruiter forecasted other than 50 points and produced 50 points, then his bonus is less than \$430.00. In other words, if he knows that his production will be 50 points, there is no reason to hide his information. Moreover, the table is constructed so that a higher production is always rewarded by a higher bonus. If his forecast was 50 points, but he could make 60 points, then he can gain more by producing 60 points. Therefore, the bonus table encourages higher productivity and more accurate forecasting at the same time.

Lyons and Reister [Ref.3] listed the objectives of this incentive mechanism as:

1. Provides an incentive for recruiters to surpass quotas and thereby maximize true market potential.
2. Rewards recruiters with monetary bonuses based on their work effort and their ability to forecast.
3. Rewards recruiters equitably in the long run despite inherent regional market differences.
4. Will provide in the long run USAREC headquarters with valuable market information that will allow for efficient future resource reallocation to the productive regions.
5. Will help reduce the tendency for recruiters to delay or hold applicants for future months thereby improving market information to USAREC Headquarters.
6. Based on improved forecasting information, the bonus model will indirectly reduce staff workload and may minimize the variance in the mission process.
7. The model is adjustable to reflect changing Army accession requirements.
8. The model is capable of maintaining quality marks.
[Ref.3,pp.57-58]

The monetary based incentive mechanism should encourage recruiters to maximize their market potential. Additionally, the BIRM would help provide USAREC with accurate market information needed to reallocate resources for more cost-effective recruiting throughout the country, and at the same time provide equitable rewards to the recruiters.

C. EXPERIMENTS AT THE NAVAL POSTGRADUATE SCHOOL

The major purpose of conducting experiments with 40 students at the Naval Postgraduate School was to gain insight into the patterns of behavior of participants when placed in simulated production incentive environments. Additionally,

another purpose was to refine the experiments to ensure they were satisfactory when conducting future experiments with recruiters in the actual recruiting environment.

The experiments incorporated three different mechanisms: a quota based mechanism, a flat-rate incentive mechanism, and the BIRM mechanism. In each case, the participants were provided their private information of how likely they could access a given number of recruits. This information was provided to them in terms of a recruits-frequency-curve. They were then asked to respond with how many recruits they could access under different incentive schemes.

Within the quota based experiment, the participants were requested to report their likely accession number under different quota levels of three, four, and five. Under the flat-rate incentive experiment, the participants were asked their likely accession number with the understanding that each accession results in \$150.00 payment. In the BIRM experiment, the participants were asked their likely accession number with the understanding that payment would be made according to the bonus payment shown in Table 3.

The experiments used two different recruits-frequency-curves (i.e. hypothetical market potential distributions). Distribution A, as shown in Figure 2, is a normal distribution with a mean of 3.7 and a standard deviation of 1.6. Distribution B, as shown in Figure 3, has a similar mean and a standard deviation of 1.9. These two curves are based on 200 recruiter production months.

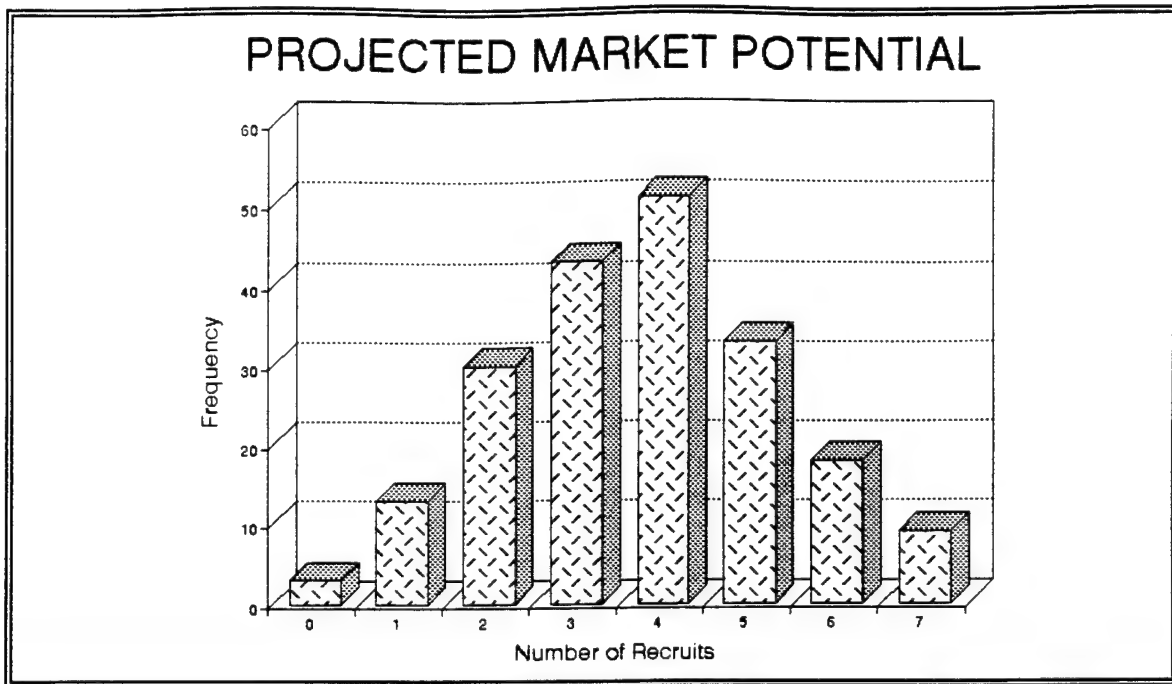


Figure 2. Recruits-Frequency-Curve, Distribution A.

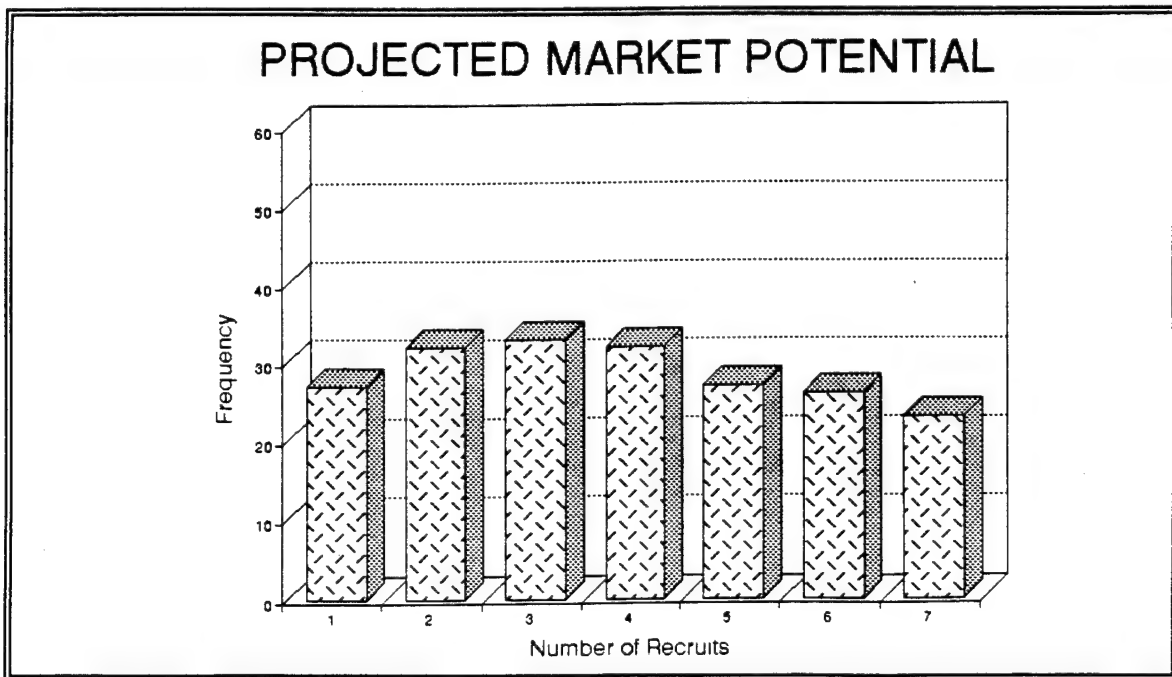


Figure 3. Recruits-Frequency-Curve, Distribution B.

1. Quota Based Experiments

There were six quota based experiments that changed not only the type of hypothetical market potential distribution, but also the participant's recruiting quota for the month.

a. Distribution A

Three experiments, each with a different quota, were conducted under this regimen. The details of these experiments are explained in Appendix A. The authors' expectations were that the majority of participants would respond with a production estimate equal to the assigned quota. The results of these three experiments are summarized in the pie charts in Figure 4.

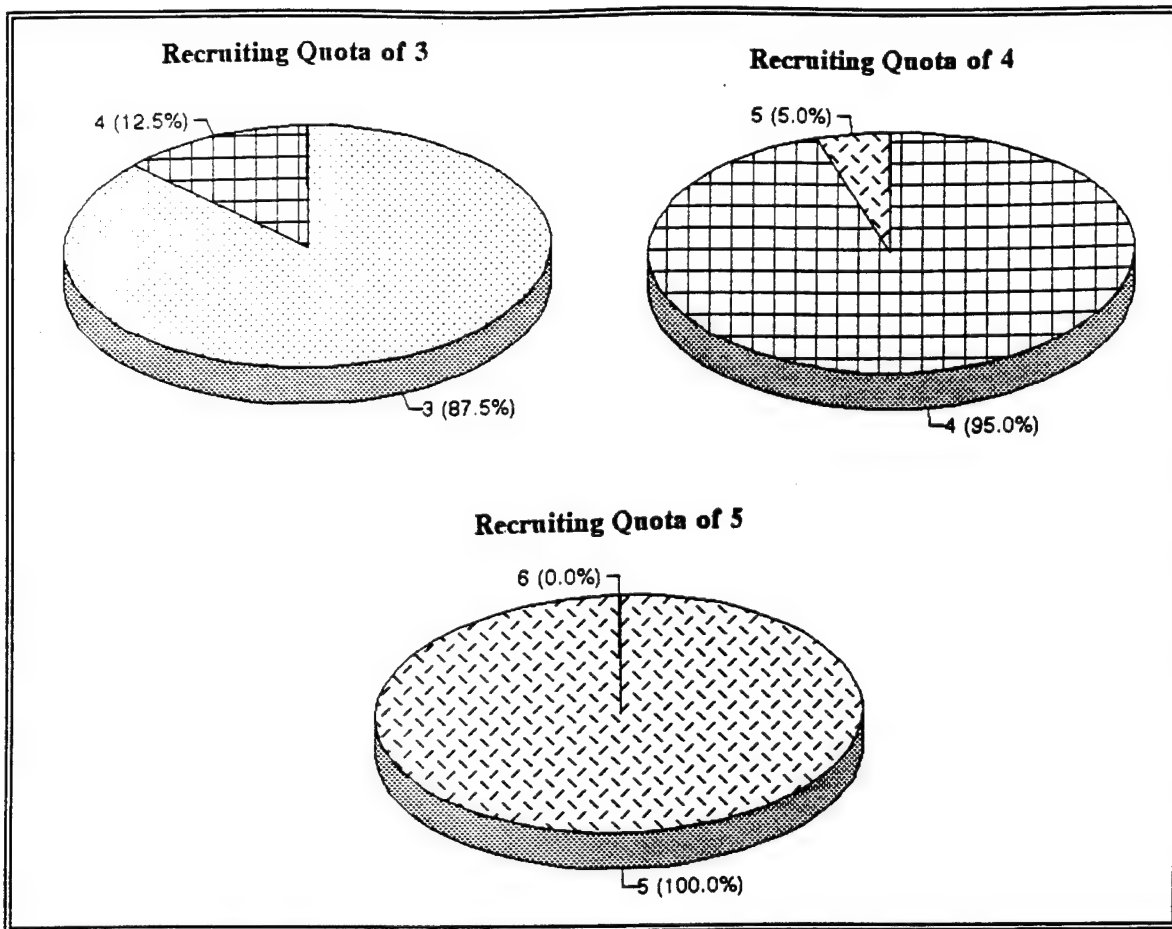


Figure 4. Results of Estimated Production, Distribution A with Quota of 3, 4, and 5.

The pie charts in Figure 4 show that under a quota based recruiting system, a combined average of 94.2 percent of the participants estimated that they would produce the number equal to their quota, without regard to the market potential.

b. Distribution B

Three experiments were again conducted to determine the effects of different quota levels on the participants' response, but with a different distribution. The details of

these experiments are explained in Appendix B. The changes in the distribution did not alter the main results of the previous experiment. The majority of the participants still responded with the assigned quota level as the most likely estimate of production. The results of these three experiments are summarized in the pie charts shown in Figure 5.

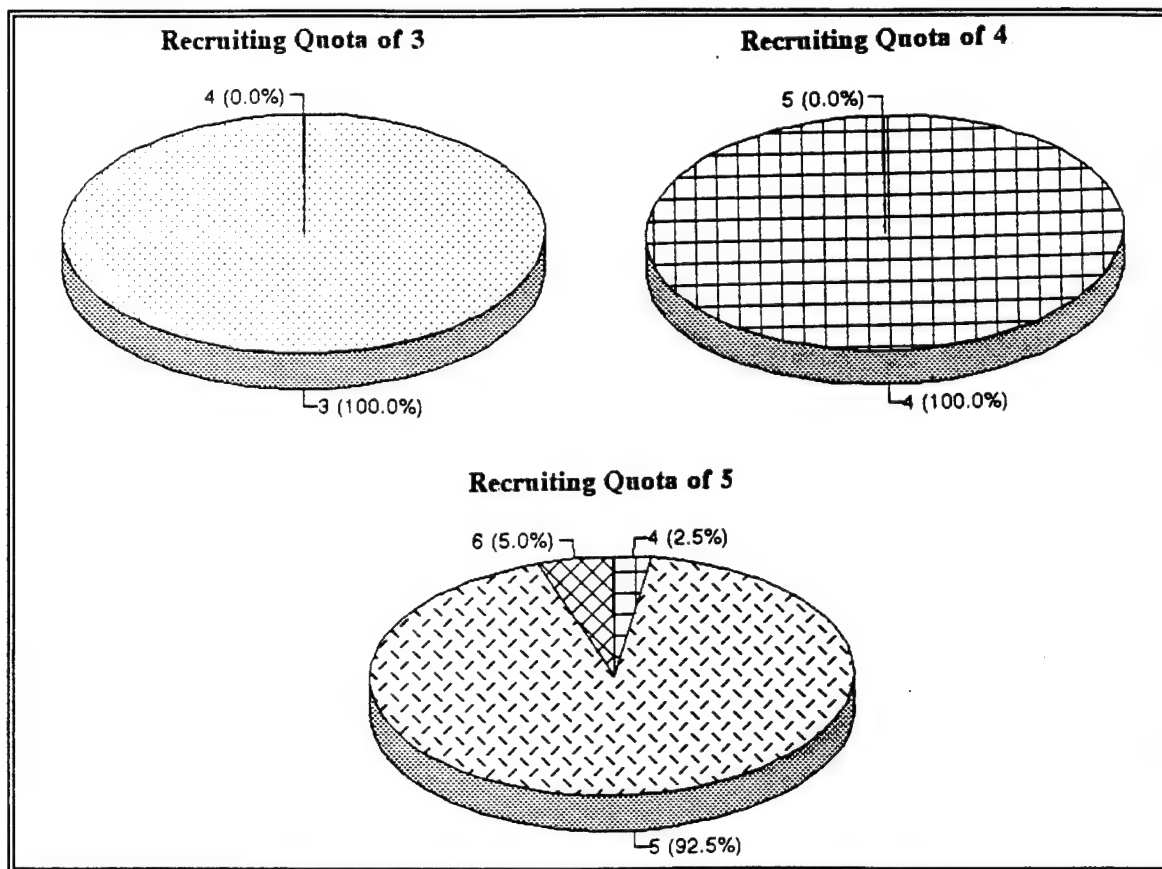


Figure 5. Results of Estimated Production, Distribution B with Quota of 3, 4, and 5.

The pie charts in Figure 5 show that under a quota based recruiting system with Distribution B, a combined average of 97.5 percent of the participants estimated that they would produce equal to their quota, without regard to the market potential.

2. Flat-Rate Incentive Model Experiments

The experiments for this series were based on monetary incentives instead of quotas using the same two distributions used in the quota experiments. The participants were instructed that they would receive a monetary bonus of \$150.00 per candidate recruited.

a. Distribution A

The details of this experiment are explained in Appendix C. The authors' expectations were that participants' production estimates would be significantly higher than the quota situation. This was because there was no penalty against making higher production estimates. In fact, they estimated the production higher than the market warranted. The authors' expectations were that the majority of participants would respond with a production estimate of around four, a level higher than the mean of the distribution. The results of this experiment are summarized in the pie chart shown in Figure 6.

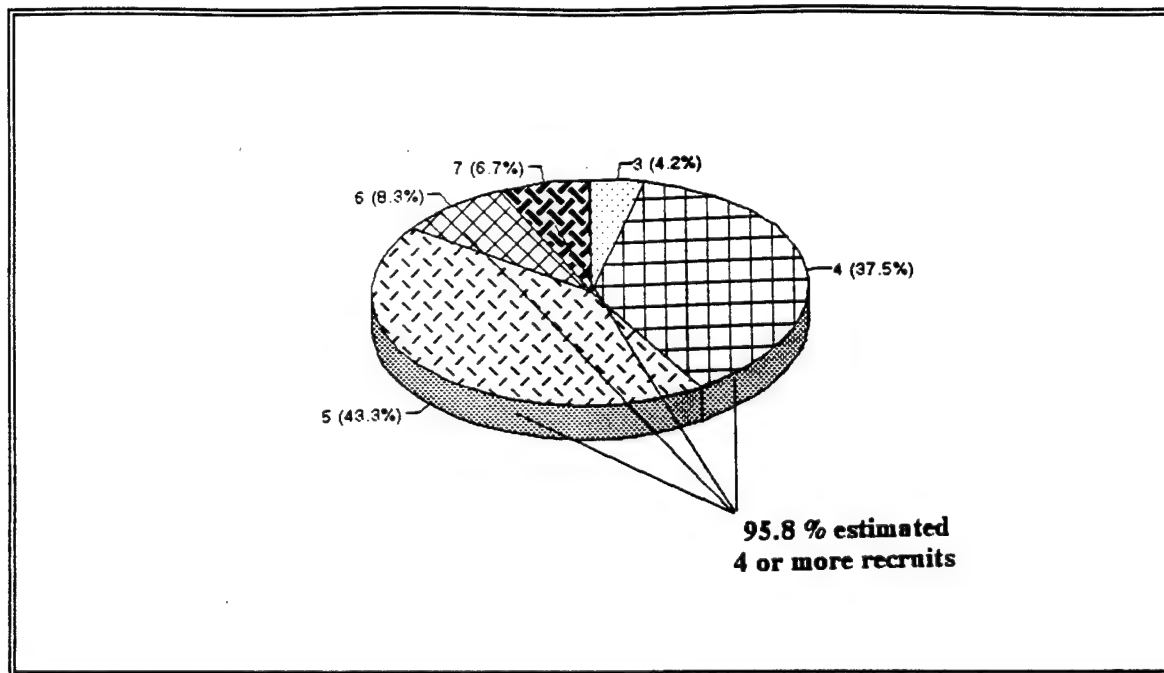


Figure 6. Results of Estimated Production with Flat-Rate Incentive Model, Distribution A.

The pie chart in Figure 6 shows that under a flat-rate incentive system with Distribution A, 37.5 percent indicated a production estimate of four recruits while 58.3 percent indicated an estimate of five or more recruits. This is remarkable in that there is only less than 30 percent chance of recruiting five or more recruits. This, however, is exactly what one should expect from the participants under this kind of incentive where there is no penalty for overestimation.

b. Distribution B

The details of this experiment are explained in Appendix D. The authors expected an even higher production estimate from the participant, since the probability of higher production is greater with the more dispersed distribution.

The results of this experiment are summarized in the pie chart shown in Figure 7.

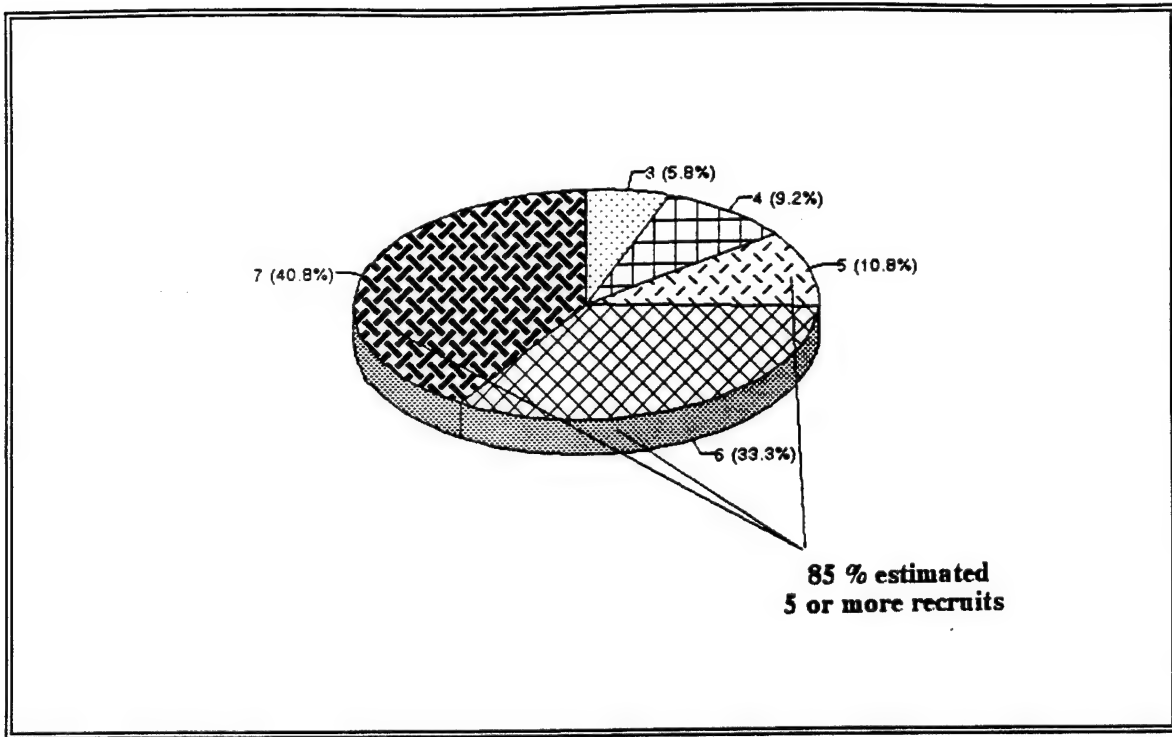


Figure 7. Results of Estimated Production with Flat-Rate Incentive Model, Distribution B.

The pie chart in Figure 7 confirms the authors' expectation of a higher production estimate by the participants. Under a flat-rate incentive system with a more dispersed distribution, 85 percent of the participants estimated that they would produce five or more recruits. Thus, under a simple flat bonus system, the production estimate tends to be significantly higher than the case of the quota. In fact, the estimate reported is higher than what the distribution mean would warrant. This is partly due to the fact that there is no penalty for the overestimation.

3. BIRM Experiments

This series of experiments was designed under the BIRM incentive framework as shown in Table 3. As with the previous experiments, two alternate distributions were used to evaluate the responses.

a. Distribution A

The details of this experiment are explained in Appendix E. The authors' expectations were that the participants' production forecasts would be comparable to the hypothetical market distribution. Since the mean of the distribution is 3.7 recruits, the authors expected the majority of the participants to respond with a production forecast of four. The results of this experiment are summarized in the pie chart in Figure 8.

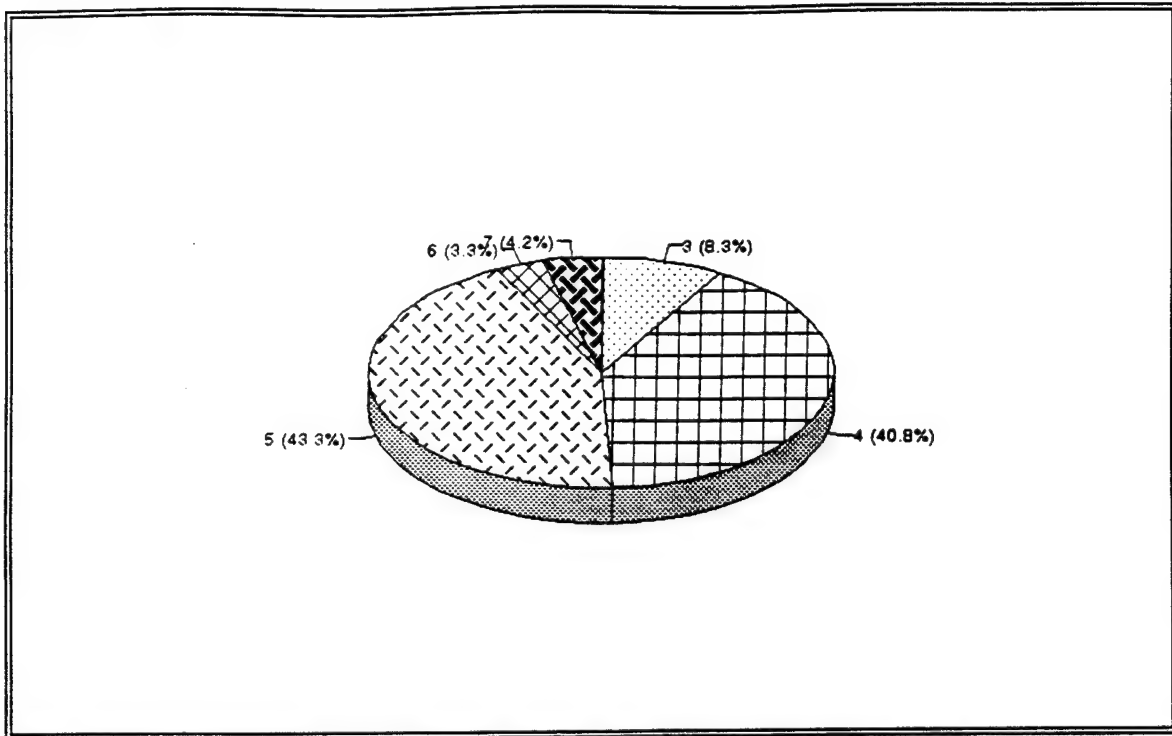


Figure 8. Results of Estimated Production with BIRM Mechanism, Distribution A.

The pie chart in Figure 8 shows that under a BIRM system with Distribution A, 40.8 percent of the participants forecasted that they would produce four recruits. However, 43.3 percent of the participants forecasted that they would produce five recruits. The large number of participant forecasts above the mean was a surprise and requires further analysis and experimentation. This may be due to a very small difference in overestimations or underestimations.

b. Distribution B

The details of this experiment are explained in Appendix F. The authors' expectations were that the participants' production forecast would be comparable to the

hypothetical market distribution. Since the mean of the distribution is 3.8 recruits, the authors expected the majority of the participants to respond with a production forecast of four. The results of this experiment are summarized in the pie chart in Figure 9.

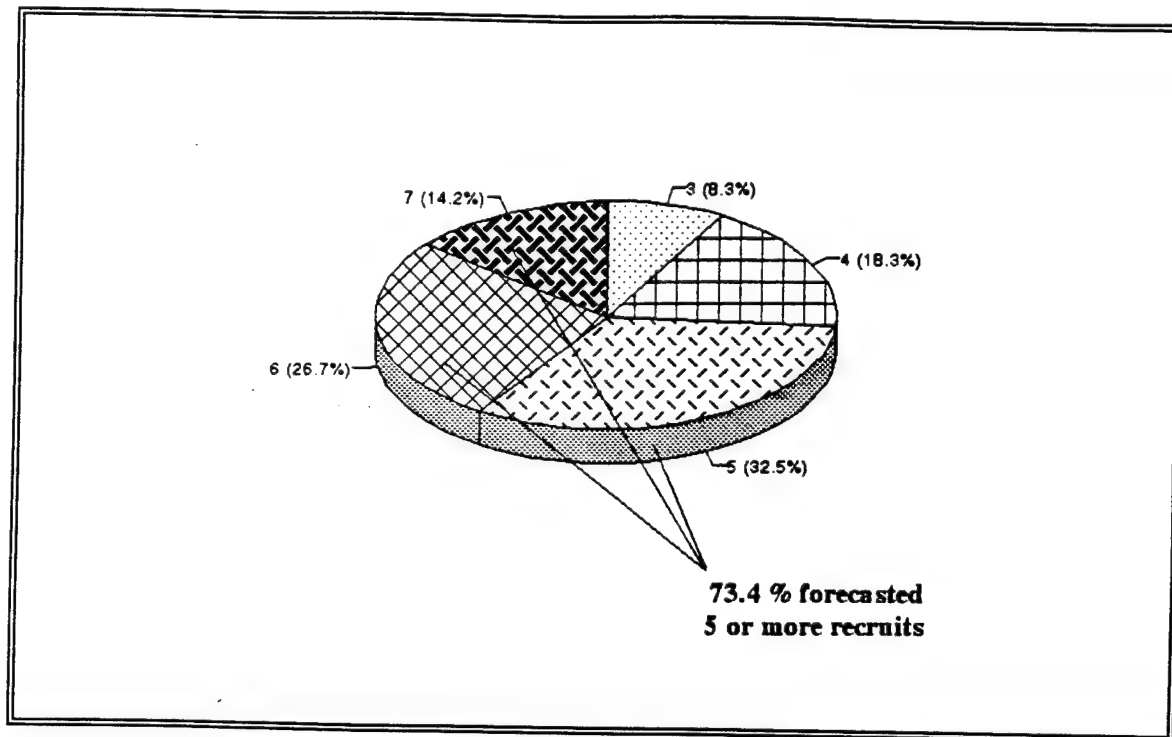


Figure 9. Results of Estimated Production with BIRM Mechanism, Distribution B.

The pie chart in Figure 9 shows that under a BIRM system with Distribution B, only 18.3 percent of the participants forecasted that they would produce four recruits, and 73.4 percent forecasted that they would produce five or more recruits. As in the previous results, this result was puzzling because the underlying distribution translates that there is only a 38 percent chance that the number of expected recruits would exceed four.

4. Summary of Naval Postgraduate School Experiments

The purpose of these experiments with students at the Naval Postgraduate School was to gain insight into the students' patterns of behavior when placed in simulated production environments. The experiments indicated:

1. When placed in a simulated quota based production environment, the participants almost always estimated their production would equal their assigned quota, irrespective of the underlying distribution.

2. When placed in a simple flat payment scheme, their production estimates were significantly inflated over what the underlying distribution would warrant. The forecasts were greater than when they were placed in either the quota based recruiting environment or the BIRM environment.

3. When placed in the BIRM environment, the participants' forecast became closest to what the underlying distribution would indicate. However, their forecasts were still greater than the distribution would warrant. This was particularly so with the Distribution B.

D. RECRUITER EXPERIMENTS

The major purpose of conducting experiments with recruiters in their actual recruiting environment was to determine if monetary incentives would motivate recruiters to increase their productivity, and to obtain comments and opinions from recruiters regarding monetary incentives. The details of these experiments are explained in Appendix G. These experiments incorporated two mechanisms: the flat-rate incentive and the BIRM mechanism.

These two mechanisms are similar to those used in the experiments conducted with the students at the Naval Postgraduate School. However, the mechanisms were slightly

modified. Since the recruiters understand the recruiting process, there was not a need to provide them with hypothetical market potential distributions or with descriptions of the recruiting environment. The monetary incentive was based on the point structure shown in Table 1 to account for the various levels of recruit quality, and monetary payoffs from the bonus table were increased.

The same procedure was used to calculate monetary bonuses. A recruiter submits a production forecast and his bonus is maximized when his forecasted points equal his production points.

The analysis of these two experiments is based on responses received from 20 recruiters. In these experiments, recruiters were given detailed instructions and were provided with conditions of a hypothetical incentive based environment. These six conditions are listed below:

1. Quality of recruits will remain at recent levels.
2. Current regulations and guidelines covering recruiting improprieties will remain the same.
3. A great deal of administrative work (products of the top-fed system) will be eliminated.
4. Your performance evaluation will no longer be based on achieving your mission; it will be based on how your productivity compares with other recruiter productivity in your area.
5. The current recruiting incentive awards (badges, stars, and rings) will remain in effect.
6. Monetary bonuses will be based on the number of recruits **actually accessed**, not just contracted.

1. Quantitative Analysis

The quantitative analysis of the experiments was designed to determine if monetary incentives would increase recruiter

productivity. This increase in productivity is defined as the difference between past recruiting performance and production estimates received from the experiments. Past recruiting performance is a monthly production average obtained from fiscal year 1994 Production Reports (Boards), and was calculated by dividing total fiscal year production by the number of months the recruiter was on production. The experiments asked the recruiters to respond with production estimates for three consecutive months. Production estimates received from the experiments were calculated by summing the three estimates and dividing by three to obtain an average of monthly production estimates. These estimates were then compared to actual past performance.

a. Flat-Rate Incentive Model

The participants of this experiment were provided with the production point values for the various levels of recruits and were instructed that they would receive a monetary bonus of \$10.00 per point. They were asked to respond with a production estimate of the number of candidates they would access for three consecutive months.

The authors' expectations were that participants' production estimates would be greater than their actual past performance. This is because unlike the quota system, there is no benefit for understating the true potential. The results of this experiment are summarized in Table 4.

	ACTUAL	FORECASTED	
	AVERAGE	AVERAGE	
	MONTHLY	MONTHLY	PERCENT
RECRUITER	PRODUCTION	PRODUCTION	CHANGE
1	0.64	2.00	214%
2	2.18	3.67	68%
3	1.58	2.67	69%
4	2.18	2.00	-8%
5	1.50	1.67	11%
6	1.00	2.00	100%
7	2.50	4.00	60%
8	0.67	3.00	350%
9	2.91	2.00	-31%
10	1.11	2.00	80%
11	1.33	3.33	150%
12	1.67	2.33	40%
13	2.33	5.00	114%
14	1.86	2.33	25%
15	1.00	1.67	67%
16	0.73	1.00	38%
17	1.82	1.00	-45%
18	2.00	3.33	67%
19	1.00	3.00	200%
20	1.00	2.00	100%
		AVERAGE	83%

Table 4. Comparison of Past Performance and Estimated Performance, Flat-Rate Model.

Table 4 reveals that when the flat-rate incentive mechanism is used, 85 percent of the participants estimated an increase in productivity, with an average increase of 83 percent.

b. BIRM Experiment

The participants of this experiment were provided with the production point values for the various quality levels of recruits and were instructed that they would receive a monetary bonus based on the incentive payoff table shown in Table 1. They were asked to respond with a production point forecast for three consecutive months.

The authors' expectations were that participants' production forecasts would be greater than their actual past performance. The authors also expected that their predictions would not be as large as those under the flat-payment scheme. The results of this experiment are summarized in Table 5.

	ACTUAL	FORECASTED	
	AVERAGE	AVERAGE	
	MONTHLY	MONTHLY	PERCENT
RECRUITER	PRODUCTION	PRODUCTION	CHANGE
1	0.64	2.00	214%
2	2.18	3.00	38%
3	1.58	3.00	89%
4	2.18	1.00	-54%
5	1.50	1.00	-33%
6	1.00	2.00	100%
7	2.50	4.00	60%
8	0.67	3.00	350%
9	2.91	2.00	-31%
10	1.11	2.00	80%
11	1.33	3.00	125%
12	1.67	3.00	80%
13	2.33	5.00	114%
14	1.86	2.00	8%
15	1.00	2.00	100%
16	0.73	1.00	38%
17	1.82	2.00	10%
18	2.00	4.00	100%
19	1.00	1.00	0%
20	1.00	3.00	200%
		AVERAGE	79%

Table 5. Comparison of Past Performance and Estimated Performance, BIRM Incentive Mechanism.

Table 5 reveals that when the BIRM incentive mechanism is used, 80 percent of the participants estimated an increase in productivity, with an average increase of 79 percent. The results confirmed the authors' expectation. However, it is not clear at this time that the prediction under the BIRM reflects the participants true underlying distribution in view of the results with the Naval

Postgraduate School experiments.

2. Qualitative Analysis

The experiment gave recruiters an opportunity to provide their comments and opinions regarding an incentive based recruiting system. The following comments were received from recruiters and are representative of all comments and opinions received:

1. Putting this type of bonus on top of an applicant will put a bad taste in the community. It would increase production, but it will become like a bounty-hunter environment.
2. I think this system will prove to be valuable to the command. First of all, it will force the recruiter to put good quality personnel in the Delayed Entry Program, knowing they can't get the incentive if DEP doesn't ship. The only drawback is, there needs to be some type of way to continue the teamwork in the station, because the recruiter will only be concerned about himself because money is involved.
3. I feel that monetary incentives will cause a lot of integrity problems, and tension within the station amongst recruiters.
4. Others will say that going to a incentive program like this will tend to make recruiters hide or conceal information about an applicant. However, recruiters are doing it now throughout USAREC and other services. So if anything, make the penalties harder for those few recruiters that are concealing information. It would be a great incentive for the other recruiters that play by the rules to be able to better compensate their hard work and loss of time from their families. Think about it! Civilian company recruiters and salespeople go by that incentive so why can't the services?
5. While this system seems to show some signs of incentive, I think its implementation would greatly jeopardize USAREC. The system being based on a monetary benefit invites corruption. Further, it would tend to foster an every man for himself

attitude, and would greatly affect unit cohesion. Further, this type of system would be a powerful weapon against Army recruiters if put into the hands of our competition. The ultimate result would be the loss of trust needed to put young men and women in boots. If an applicant is led to believe that the recruiter's only interest in them is monetary it would be that much more difficult to assist in a career opportunity.

6. This is a subject that has been debated several times over the past few years. My immediate concerns are that the factors that are to be used are fair and equitable to all recruiters as much as possible. Also, I hope that we would monitor this system if implemented, to maintain a good value basis and integrity foundation to ensure that we continue to recruit good people with them being thought of first, last and always. Just don't overshadow the honor of being a recruiter just because we are giving monetary incentives (we are great with or without additional money).

Although the majority of recruiters believe that the monetary incentive system would increase individual recruiter production, they are seriously concerned with the extra complications associated with such a monetary based incentive system. They also raised issues that could undermine the efficacy of the system.

3. Summary of Recruiter Experiments

The purpose of these experiments with recruiters was to determine the effect of the monetary incentive system on their estimate of recruit production. The authors' expectations regarding an increase in such estimates were confirmed. With both the flat-rate incentive mechanism and the BIRM mechanism, the majority of recruiters provided production estimates that are greater than their actual past performance. The comments the authors received from these recruiters revealed that approximately 75 percent of these recruiters (46 out of 62

total experiments received) oppose a monetary incentive system.

E. INCREASED PRODUCTIVITY AS A CATALYST

The focus of the research was to examine the underestimation bias of the quota based recruiting system and to explore the effects of different incentive systems on the production estimates. In particular, the authors were interested in the unbiased estimating feature of the BIRM mechanism.

In fiscal year 1994, USARECs mission was to access 68,000 recruits with 4,491 recruiters. This equates to 15.14 recruits per year per recruiter. If this average annual production could be increased by 20 percent, then an annual production of 18.16 recruits per recruiter could be achieved. This would allow USAREC to reduce the number of recruiters to 3,743 (68,000 divided by 18.16). Decreasing the number of required recruiters from 4,491 to 3,743 would allow USAREC to eliminate 748 recruiter positions from their personnel authorization document. This results in approximately \$24 million savings in military pay for USAREC, using the enlisted composite pay figure of \$32,392 per soldier. There would be other significant savings in USARECs budget such as recruiter support and training costs. It is estimated that the monetary incentive system could be fully funded with approximately 50 percent of the savings generated by the reduction of the military pay account. The remaining 50 percent of the savings could be applied toward reducing USARECs overall budget.

F. CHAPTER SUMMARY

In this chapter, two incentive mechanisms designed to increase recruiter production were introduced. These incentive mechanisms could increase individual recruiter productivity, and this increase in productivity could allow USAREC to allocate resources more efficiently. Efficient resource allocation could lead to decreased costs and increased savings which could be used to fund the incentive mechanism. However, a fact which must be further addressed is that the majority of recruiters interviewed view monetary incentives negatively.

V. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

The mission of USAREC is to recruit high quality personnel to ensure that the Army will be able to successfully perform its future missions. In order to meet Army manpower requirements, USAREC currently utilizes a quota based recruiting system. This quota system has been viewed as successful since USAREC has achieved its assigned mission every year since 1980. However, the GAO recently investigated USAREC due to the size of USARECs operating budget and the decreasing productivity of its recruiting forces.

The objective of this research was to examine an alternative incentive mechanism to the current quota based recruiting system. Chapter I outlined the focus and organization of the research. Chapter II provided an overview of the quota based recruiting system and identified critical problems associated with this system. Chapter III described the difficulties in implementing significant changes into an organization and indicated the primary concerns mentioned by recruiters concerning monetary bonuses. Chapter IV provided the results and analysis of (simulated) monetary form of BIRM experiments.

B. CONCLUSIONS

1. Inherent Problems with the Quota System

The research revealed critical problems with the quota based recruiting system in the human resource strategy and economic incentive areas. The human resource strategy problems include an overly risk-averse working environment, disincentives to overproduce, limited process ownership, and the use of management by fear. The economic incentive problems include the inability to efficiently allocate resources because the true market potential of regions are masked and hidden by the quota based recruiting system.

2. Simulated Monetary Incentives Indicated an Increase in Estimated Recruit Production

The authors conducted experiments in two separate environments: a hypothetical environment with students at the Naval Postgraduate School, and an experiment with actual recruiters in their environment. The experiments with students at the Naval Postgraduate School indicated that the majority of participants, with the flat-rate incentive and the BIRM incentive mechanisms, provided production estimates significantly higher than with the case of the quota based system. With both the flat-rate incentive mechanism and the BIRM mechanism, the majority of recruiters provided production estimates that were greater than their actual past performance as compared to fiscal year 1994 production statistics.

3. BIRM Encourages Revelation of True Production Capability

The BIRM is designed to require recruiters to forecast

their production as accurately as possible and encourages the recruiter to reveal his true production capability. When placed in a simulated quota based production environment, the participants almost always estimated their production would be equal to their assigned quota, irrespective of the underlying distribution. When placed in a simple flat payment scheme, their production estimates were significantly inflated over what the underlying distribution would warrant. Their forecasts were greater than when they were placed in either the quota based recruiting environment or the BIRM environment. When placed in the BIRM environment, the participants' forecast became closest to what the underlying distribution would indicate.

4. BIRM Provides the Best Opportunity for Efficient Resource Allocation

The key elements that lead to efficient resource allocation are an increase in recruiter productivity and accurate market information as revealed by the recruiter's true production capability. Of the three alternative methods examined in this thesis, only the flat-rate and BIRM mechanisms indicated an increase in estimated recruit production. Of these two, only the BIRM mechanism will provide accurate market information as it is designed to encourage revelation of true production capability. The BIRM would help provide USAREC with accurate market information needed to reallocate resources for more cost-effective recruiting throughout the country, and at the same time provide equitable rewards to the recruiters.

C. RECOMMENDATIONS

1. Further Experiments With BIRM Mechanism

The authors believe that the BIRM is the best mechanism for USAREC since it provides the greatest opportunity for efficient resource allocation. The BIRM mechanism would maximize market potential, reward recruiters equitably in the long run, and provide important market information to USAREC for better resource allocation decisions. Although the authors' experiments indicated that simulated monetary incentives increased estimated recruit production, these results were based on only one recruiting battalion and with hypothetical bonuses offered. To better determine the actual feasibility of providing monetary bonuses to recruiters, the authors believe USAREC should further test the BIRM mechanism and offer actual monetary bonuses to participants in order to determine recruiters true behavior.

2. BIRM Experiments With Various Incentive Tools

The key to successful implementation of any program relies heavily upon the acceptance by end-users. Within USAREC, the end-users of the BIRM mechanism examined in this thesis would be the on-production recruiters. If further testing of the BIRM mechanism with monetary incentives reveals that the majority of on-production recruiters still oppose monetary rewards as an incentive tool, then other incentive tools can be incorporated within the BIRM mechanism. The key point is that the BIRM mechanism still provides USAREC with the best opportunity for efficient resource allocation. It is designed to allow various incentive tools to be incorporated within its framework.

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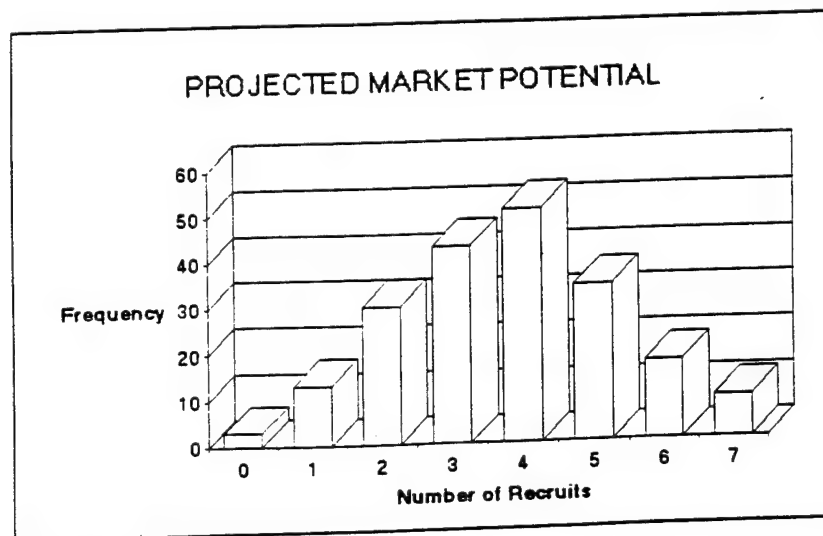
APPENDIX A. STUDENT EXPERIMENT, QUOTA BASED, DISTRIBUTION A

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

For this experiment, you will be an Army recruiter. You will be given a quota for this month to recruit a specific number of quality recruits. Of course, your performance evaluation is almost solely dependent on meeting your monthly quota. Consistently meeting your assigned monthly quota is considered successful, and failing to meet the quota may result in receiving substandard efficiency reports or relief from your duty position. It is important to note that your future quotas are based on your historical recruiting performance (recruiting more than your quota could result in a higher future quota and possible failure to meet the higher quota).

The graph below depicts the projected market potential of your recruiting area for this month. On the average, you should be able to recruit four candidates.



Your recruiting quota for this month is 3 recruits.

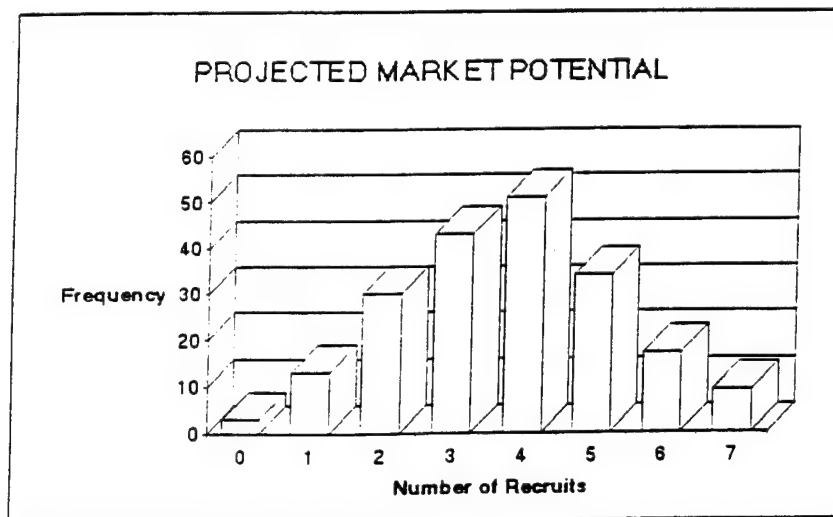
How many candidates will you recruit this month? _____

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

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Your recruiting quota for this month is 4 recruits.

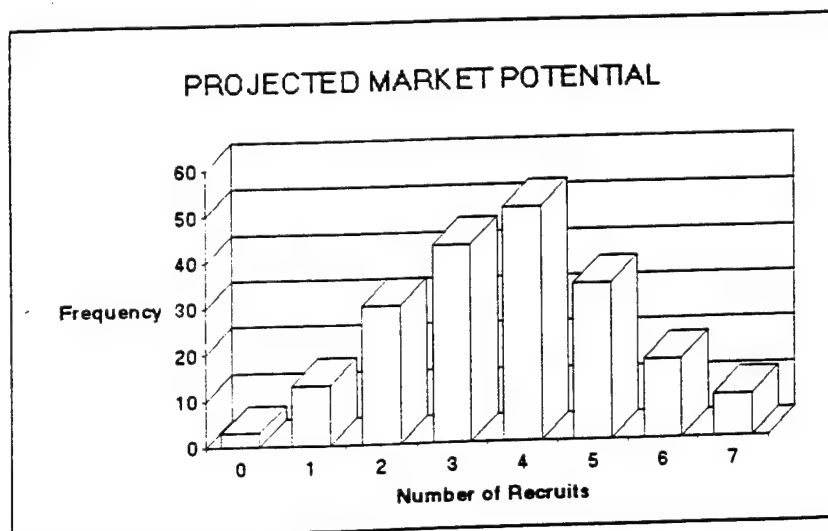
How many candidates will you recruit this month? _____

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

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The graph below depicts the projected market potential of your recruiting area for this month. On the average, you should be able to recruit four candidates.



Your recruiting quota for this month is 5 recruits.

How many candidates will you recruit this month? _____

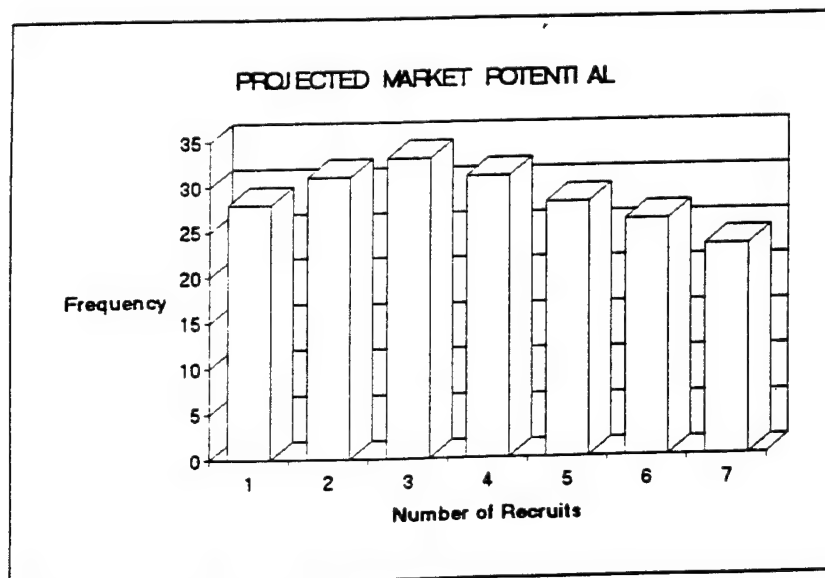
APPENDIX B. STUDENT EXPERIMENT, QUOTA BASED, DISTRIBUTION B

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

For this experiment, you will be an Army recruiter. You will be given a quota for this month to recruit a specific number of quality recruits. Of course, your performance evaluation is almost solely dependent on meeting your monthly quota. Consistently meeting your assigned monthly quota is considered successful, and failing to meet the quota may result in receiving substandard efficiency reports or relief from your duty position. It is important to note that your future quotas are based on your historical recruiting performance (recruiting more than your quota could result in a higher future quota and possible failure to meet the higher quota).

The graph below depicts the projected market potential of your recruiting area for this month. On the average, you should be able to recruit anywhere from one to seven recruits on a somewhat equally likely basis.



Your recruiting quota for this month is 3 recruits.

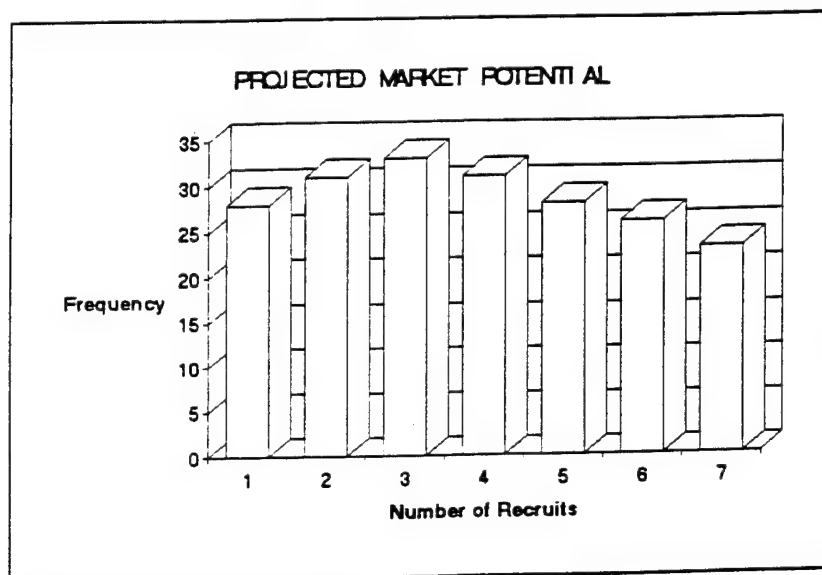
How many candidates will you recruit this month? _____

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

For this experiment, you will be an Army recruiter. You will be given a quota for this month to recruit a specific number of quality recruits. Of course, your performance evaluation is almost solely dependent on meeting your monthly quota. Consistently meeting your assigned monthly quota is considered successful, and failing to meet the quota may result in receiving substandard efficiency reports or relief from your duty position. It is important to note that your future quotas are based on your historical recruiting performance (recruiting more than your quota could result in a higher future quota and possible failure to meet the higher quota).

The graph below depicts the projected market potential of your recruiting area for this month. On the average, you should be able to recruit anywhere from one to seven recruits on a somewhat equally likely basis.



Your recruiting quota for this month is 4 recruits.

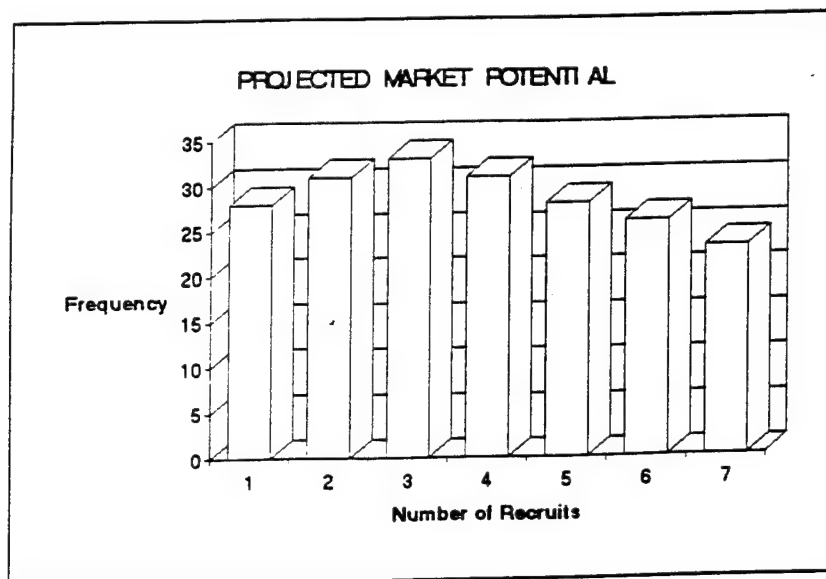
How many candidates will you recruit this month? _____

U.S. ARMY RECRUITING EXPERIMENT (QUOTA BASED)

The United States Army Recruiting Command's (USAREC) mission is to recruit high quality men and women to meet accession and special skill requirements of the U.S. Army. The current system is quota based; these quotas are top-fed from USAREC Headquarters, through recruiting command channels and are eventually assigned to individual recruiters.

For this experiment, you will be an Army recruiter. You will be given a quota for this month to recruit a specific number of quality recruits. Of course, your performance evaluation is almost solely dependent on meeting your monthly quota. Consistently meeting your assigned monthly quota is considered successful, and failing to meet the quota may result in receiving substandard efficiency reports or relief from your duty position. It is important to note that your future quotas are based on your historical recruiting performance (recruiting more than your quota could result in a higher future quota and possible failure to meet the higher quota).

The graph below depicts the projected market potential of your recruiting area for this month. On the average, you should be able to recruit anywhere from one to seven recruits on a somewhat equally likely basis.



Your recruiting quota for this month is 5 recruits.

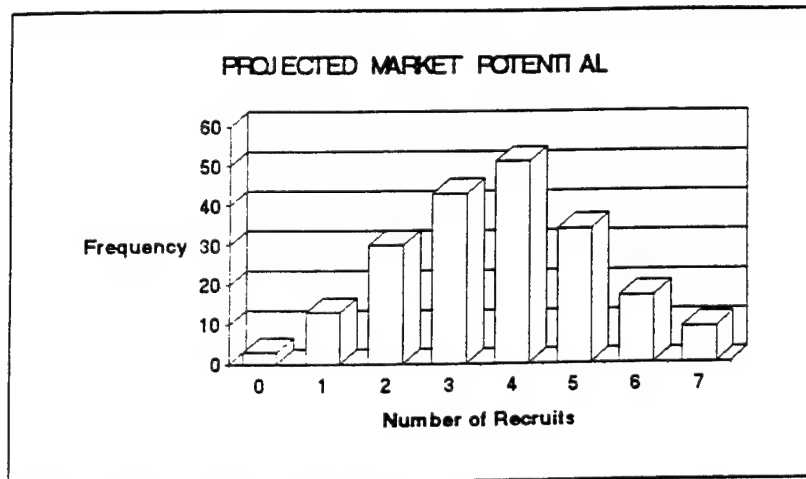
How many candidates will you recruit this month? _____

APPENDIX C. STUDENT EXPERIMENT, FLAT-RATE INCENTIVE, DISTRIBUTION A

U.S. ARMY RECRUITING EXPERIMENT (INCENTIVE BASED)

The United States Army Recruiting Command's (USAREC) accession system is now based on monetary incentives instead of quotas.

For this experiment, you will be an Army recruiter. You must evaluate the market potential of your recruiting area (based on the graph below), and determine how many candidates you think you will recruit for this month. For this experiment, you must respond between one and seven recruits.



Your incentive is based on a flat rate of \$150.00 per candidate recruited.

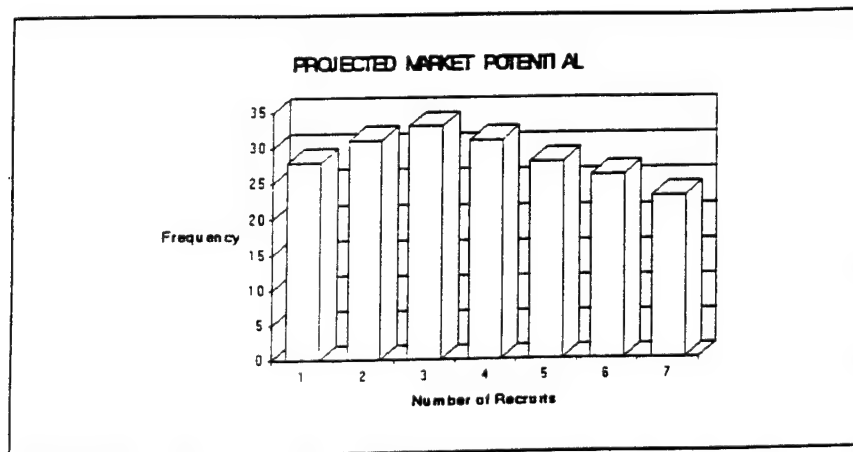
My estimate for this month is _____ recruits.

APPENDIX D. STUDENT EXPERIMENT, FLAT-RATE INCENTIVE, DISTRIBUTION B

U.S. ARMY RECRUITING EXPERIMENT (INCENTIVE BASED)

The United States Army Recruiting Command's (USAREC) accession system is now based on monetary incentives instead of quotas.

For this experiment, you will be an Army recruiter. You must evaluate the market potential of your recruiting area (based on the graph below), and determine how many candidates you think you will recruit for this month. For this experiment, you must respond between one and seven recruits (on the average, you should be able to recruit anywhere from one to seven recruits on a somewhat equally likely basis).



Your incentive is based on a flat rate of \$150.00 per candidate recruited.

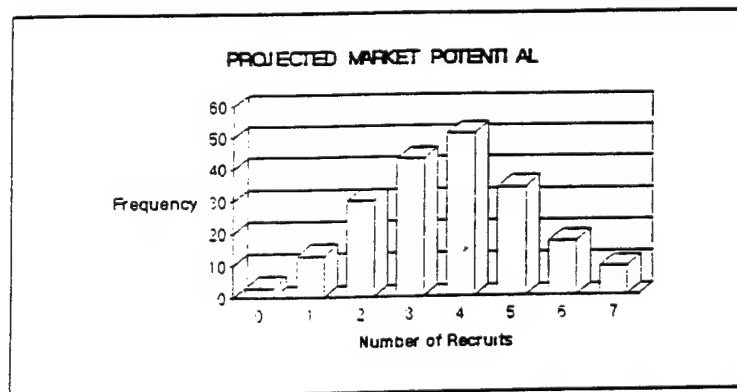
My estimate for this month is _____ recruits.

APPENDIX E. STUDENT EXPERIMENT, BIRM INCENTIVE, DISTRIBUTION A

U.S. ARMY RECRUITING EXPERIMENT (INCENTIVE BASED)

The United States Army Recruiting Command's (USAREC) accession system is now based on monetary incentives instead of quotas; the incentives are determined by a forecast bid and actual recruit "production."

For this experiment, you will still be an Army recruiter. You no longer have a quota, but you now have direct input into the accession process. You must evaluate the market potential of your recruiting area (based on the graph below), and make a monthly production forecast. For this experiment, your bid must be between one and seven recruits (on the average, you should still be able to recruit four candidates).



Your payment will be your base pay plus a bonus payment from the table below (based on your forecast and actual production for the month).

MONTHLY BONUS TABLE

		Number Forecasted by Recruiter						
		1	2	3	4	5	6	7
Actual Number Recruited	1	110	108	101	91	75	56	32
	2	153	155	153	147	136	121	101
	3	196	203	205	203	196	186	170
	4	240	250	257	259	257	250	240
	5	283	298	309	315	317	315	309
	6	326	345	361	372	378	380	378
	7	369	393	412	428	438	445	447

Using the incentive payoff table in conjunction with the graph of your market potential, submit a forecast for the number of candidates you will recruit this month.

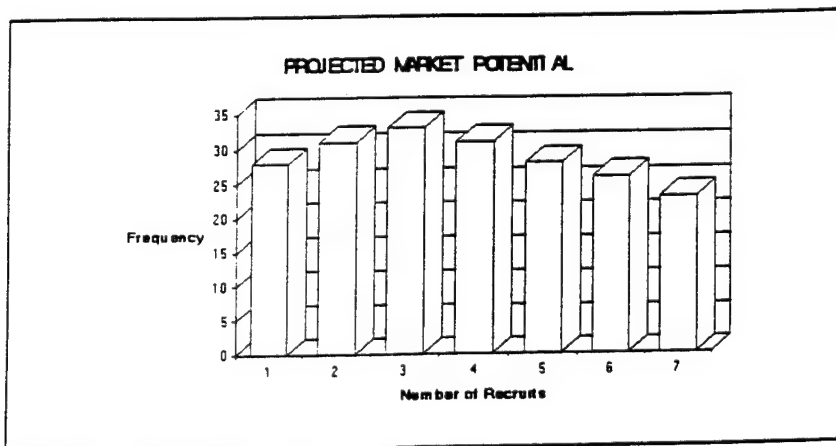
My forecast for this month is _____ recruits.

APPENDIX F. STUDENT EXPERIMENT, BIRM INCENTIVE, DISTRIBUTION B

U.S. ARMY RECRUITING EXPERIMENT (INCENTIVE BASED)

The United States Army Recruiting Command's (USAREC) accession system is now based on monetary incentives instead of quotas; the incentives are determined by a forecast bid and actual recruit "production."

For this experiment, you will still be an Army recruiter. You no longer have a quota, but you now have direct input into the accession process. You must evaluate the market potential of your recruiting area (based on the graph below), and make a monthly production forecast. For this experiment, your bid must be between one and seven recruits (on the average, you should be able to recruit anywhere from one to seven recruits on a somewhat equally likely basis).



Your payment will be your base pay plus a bonus payment from the table below (based on your forecast and actual production for the month).

MONTHLY BONUS TABLE

		Number Forecasted by Recruiter						
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	3	196	203	205	203	196	186	170
	4	240	250	257	259	257	250	240
	5	283	298	309	315	317	315	309
	6	326	345	361	372	378	380	378
	7	369	393	412	428	438	445	447

Using the incentive payoff table in conjunction with the graph of your market potential, submit a forecast for the number of candidates you will recruit this month.

My forecast for this month is _____ recruits.

APPENDIX G. RECRUITER EXPERIMENT

NAME _____

NAVAL POSTGRADUATE SCHOOL THESIS SURVEY OF U.S. ARMY RECRUITERS

The attached surveys are for thesis research for two U.S. Army officers attending the Naval Postgraduate School in Monterey, California. The officers are currently working with two professors who are conducting research for USAREC Headquarters.

In an effort to improve the recruiting process, this survey is designed to help determine if process ownership, monetary incentives, and the elimination of the top-fed mission recruiting system will allow recruiters to increase productivity.

Incentive based environments rely on positive rewards for a job well done, as opposed to top-fed systems which depend on negative actions when assigned missions are not achieved. Although it is quite alarming for most people to imagine recruiters receiving a bonus for assessing recruits, it is a proven fact that money is an extremely effective motivator. Recruiters are the most important link in the recruiting process and must be truly motivated by the incentive offered to increase productivity. An increase in recruiter productivity will allow the government to save money in the long run.

While taking part in the following surveys, imagine that the current mission system has been eliminated and you are now operating in an incentive based environment.

In this new environment, the following conditions would exist:

- 1) Quality of recruits will remain at recent levels.
- 2) Current regulations and guidelines covering recruiting improprieties will remain the same.
- 3) A great deal of administrative work (products of the top-fed system) will be eliminated.
- 4) Your performance evaluation will no longer be based on achieving your mission; it will be based on how your productivity compares with other recruiter productivity in your area.
- 5) The current recruiting incentive awards (badges, stars, and rings) will remain in effect.
- 6) Monetary bonuses will be based on the number of recruits actually assessed, not just contracted.

IMPORTANT NOTE: The two attached surveys are independent and are designed to examine two separate monetary incentive methods. Do not attempt to compare them.

RECRUITER SURVEY NUMBER ONE

This monetary incentive method is based upon the points currently awarded under USAREC Regulation 672-10. Shown below are the points awarded for different categories of recruits. Overproduction point values no longer exist since monthly missions are no longer assigned.

	CATEGORY	ACRONYM	POINTS
1	Graduates, Seniors, TSC I-III A	GSA, CA	20
2	Graduates, Seniors, TSC IIIB	GSB, CB	5
3	Prior Service (RA), TSC I-III A, and IIIB	PA, PB, PS	5
4	Prior Service (USAR)	PS	10
5	Non High School Graduates, TSC I-III A	HA, NA	5
6	Graduate/Snr TSC IV, Non-grad TSC IIIB/IV	G4, S4, HB H4, NB, N4	0

For this survey, you will not receive a monthly mission. You are completely responsible for your personal productivity. You must evaluate your current recruiting market and determine how many candidates you are capable of assessing in three consecutive months. You must keep in mind that USAREC has quality standards to maintain, therefore the number of low quality recruits assessed will be controlled by USAREC in accordance with its overall accession requirements (do not respond with a higher number of low quality recruits than you assessed in the past).

The incentive awarded will be \$10.00 per point. For example, a GSA results in a bonus of \$200.00, etc. Place the *number* of candidates (by category) you will assess for three consecutive months in the table below.

CATEGORY	MONTH 1	MONTH 2	MONTH 3
GSA, CA			
GSB, CB			
PA, PB, PS			
PS			
HA, NA			
TOTALS			

RECRUITER SURVEY NUMBER TWO

This monetary incentive method is also based upon the points currently awarded under USAREC Regulation 672-10 (see table on survey number one). Overproduction point values no longer exist since monthly missions are no longer assigned.

For this survey, you will not receive a monthly mission. You are completely responsible for your personal productivity. You must evaluate your current recruiting market and determine how many candidates you are capable of assessing in three consecutive months. You must keep in mind that USAREC has quality standards to maintain, therefore the number of low quality recruits assessed will be controlled by USAREC in accordance with its overall accession requirements (do not plan on recruiting a greater number of low quality recruits than you assessed in the past).

The monthly incentive award will be based on the table shown below. For this type of bonus method, you will be required to submit a monthly point forecast. The bonus you will receive is dependent on the actual points produced (assessed) and the points you forecast. Your monthly bonus is maximized when your production points equal your forecasted points. For example, if you forecast 50 points and actually produce 50 points, your bonus would be \$430.00. However, if you forecast 50 points, and only produce 30 points, your bonus would only be \$324.00.

POINTS FORECASTED BY RECRUITER

	10	20	30	40	50	60	70	80	90	100
10	\$241	\$240	\$236	\$229	\$218	\$202	\$181	\$154	\$118	\$74
20	\$283	\$284	\$283	\$279	\$271	\$259	\$241	\$218	\$188	\$149
30	\$325	\$329	\$330	\$329	\$324	\$315	\$302	\$283	\$257	\$223
40	\$367	\$373	\$377	\$378	\$377	\$372	\$362	\$347	\$326	\$297
50	\$409	\$418	\$424	\$428	\$430	\$428	\$422	\$412	\$395	\$372
60	\$452	\$462	\$471	\$478	\$483	\$484	\$482	\$476	\$464	\$446
70	\$494	\$506	\$518	\$528	\$536	\$541	\$543	\$541	\$534	\$521
80	\$536	\$551	\$565	\$578	\$589	\$597	\$603	\$605	\$603	\$595
90	\$578	\$595	\$612	\$628	\$642	\$654	\$663	\$670	\$672	\$669
100	\$620	\$640	\$659	\$677	\$695	\$710	\$724	\$734	\$741	\$744

What are your point forecasts for three consecutive months?

Month 1 _____ Month 2 _____ Month 3 _____

RECRUITER SURVEY FEEDBACK SHEET

Please take a few moments to tell us your concerns, ideas, or comments regarding these surveys and/or the concept of providing monetary incentives to recruiters.

Thank you for your time. The individual results of these surveys will be handled in a confidential manner.

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